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Analysis of the Stressor and Coping Strategies of Adolescents with Dysmenorrhoea

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ABSTRACT

Introduction: Every woman has a different menstrual experience. However, many encounter menstruation alongside disorders that cause discomfort, such as pain felt during menstruation called dysmenorrhoea. One of the factors that influence the occurrence of primary menstrual pain is the psychological factor of stress.

Objective: This study aimed to identify the strategies used to overcome dysmenorrhoea in young women.

Method: This study used a cross-sectional design and a simple random sampling technique. The calculation result involved 132 samples. The independent variables were personal stressors, environmental stressors, and coping strategies. The dependent variable was dysmenorrhoea. The data was collected using a questionnaire that was tested for validity and reliability. The analysis used a multiple linear regression test with a significance level $\alpha \leq 0.05$.

Results: The results showed that the personal stressors related to the age aspect were associated with dysmenorrhoea (p=0.002), and that the age of menarche was associated with dysmenorrhoea (p=0.023). Environmental stressors within the aspect of workload had a correlation with dysmenorrhoea (p=0.009), and interpersonal relationships had a correlation with dysmenorrhoea (p=0.015). Coping strategies, particularly emotionally-focused coping also had a relationship with dysmenorrhoea (p=0.019).

Conclusion: Biological age and age of menarche are two of the causes of personal stress for young women. Academic stress is also one of the highest causes of stress in adolescent girls. The demands of academic achievements, interactions with peers, bad teachers and pressuring parents can result in adolescents experiencing stress, resulting in the physical health effect of dysmenorrhoea during menstruation. If adolescents cannot find a good method coping, the risk of dysmenorrhoea will be higher.

Keyword: *adolescent, dysmenorrhoea, stressor, strategy coping.*

INTRODUCTION

Menstruation is a period of blood flowing from the uterus through the cervix and discharging through the vagina. A menstruation cycle begins on the first day of menstruation and continues for, on average, 8 days. Normally, it is estimated to be around 21 to 35 days[1]. Menstrual disorders can occur at different ages. This particular disorder occurs more often in early puberty[2]according to the survey result that many students still didn't know how to decrease dismenore. This research used pre experiment method with the one group pretest-posttest design. The research population was all of the XI class student at Kediri High School 5 whom got dismenore at April 2016. The sample was 16 respondent which taken by accidental sampling. Primary data which is got from dismenore pain measurement at teenager which is done before giving the dark chocolate (pre test. Every woman has a different menstrual experience; many encounter menstruation accompanied with disorders causing discomfort such as pain felt during menstruation in the form of dysmenorrhoea[3]. Dysmenorrhoea is one of the most common

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gynaecological disorders, characterised by pain that is localised in the inferior quadrant of the abdomen and spread through the inner thigh[4]. There are two types of dysmenorrhoea; primary and secondary dysmenorrhoea. Primary dysmenorrhoea usually happens when the individual is younger than 20 years old and there is no correlation with other gynaecological disorders, while secondary dysmenorrhoea happens after the age of 20 years old and correlates with pelvic disease[3].

The WHO data in 2016 showed that incidence rate was 1.769.425, meaning that 90% of women experience dysmenorrhoea and around 10-15% experience severe dysmenorrhoea. Primary dysmenorrhoea often occurs in more than 50% of women and 15% of them experience severe pain. According to the Indonesian Ministry of Health (2010), primary dysmenorrhoea is experienced by 60-75% of young women. One of the factors which influences primary dysmenorrhoea is stress. The cause of stress in adolescents can originate from the inner or outer self. For example, an abundance of academic demands such as tests and assignments, stress because of the high achievement-related demands from their parents, or from the surrounding environment such as inconvenient classrooms and the school itself [5].

One of the factors influencing primary menstrual pain is the psychological factor of stress. If adolescents are not able to choose the right coping strategy to deal with the stress that they encounter, the perceived dysmenorrhoea will be stronger. The purpose of this study was to identify the stressor relationships and coping strategies related to dysmenorrhoea in adolescents.

METHOD

This study was a descriptive research study that used a cross-sectional design. The sample in this research consisted of 132 female students at Junior High school 29 in Surabaya utilising simple random sampling. The independent variables of the research included personal stressors (people, menarche time, menstrual duration, and menstrual cycle), environmental stressors (workload and interpersonal relationships) and coping strategies. The dependent variable was dysmenorrhoea. The instruments used in the collecting data were a questionnaire for measuring the involved stressors and the 'Ways Coping Questionnaire' from Lazarus & Folkman 1984 for their chosen coping strategy[6]. The data analysis used in this research utilised a multiple linear regression test with a significant level of $\alpha<0.05$.

RESULTS

Table 1. Respondent Demographic Characteristics (n=132)

Respondents' Characteristics	Criteria	f	%
Age	13 Years old	69	52.3
	14 Years old	50	37.9
	15 Years old	13	9.8
Menstruation Disorders	Pain	132	100
	No pain	0	0
Family History	Yes	71	53.8
	No	61	46.2
Previously experienced dysmenorrhoea	Yes	95	71.9
	No	37	28.1
Dysmenorrhoea disorders	Nausea	0	0
	Dizzy	0	0
	Vomit	0	0
	Lower stomach pain	132	100
Dysmenorrhoea Treatment	Sleep	87	65.9
	Taking medicine	17	12.9
	Listening to Music	28	21.2
Menarche age	<12 Years old	34	25.8
	12 Years old	62	47.0

Cont.... **Table 1. Respondent Demographic Characteristics (n=132)**

	>12 Years old	36	27.3
Menstruation Duration	<7 days	27	20.5
	7 days	81	61.4
	>7 days	24	18.2
Menstruation Cycle	<22 days	55	41.7
	22-35 days	54	40.9
	>35 days	23	17.4

Multiple Linear Regression Test of the Stressors and Coping Strategies in Female Adolescents with Dysmenorrhoea

Table 2. The Correlation between Stressors and Coping Strategies in Female Adolescents with Dysmenorrhoea at Junior High School 29, in Surabaya in July 2018

Sub Variables	**Category**	**F**	**%**	***p***
Age	13 Years old	69	52.3	
	14 Years old	50	37.9	0.002
	15 Years old	13	9.8	
Menarche age	<12 Years old 12 Years old >12 Years old	34 62 36	25.8 47.0 27.3	0.023
Sub Variables	**Category**	**F**	**%**	***p***
Environmental Stressor				
Workload	Low	28	21.2	
	Intermediate	101	76.5	0.009
	High	3	2.3	
Interpersonal Relationship	Low Intermediate High	8 98 26	6.1 74.2 19.7	0.015
Sub Variables		**F**	**%**	***p***
Strategy Coping				
Emotion-Focused Coping (EFC)				
		84.8	0.019	
112				

This study found that stressors and coping strategies had a significant correlation in association with adolescents with dysmenorrhoea. Personal stressors within the aspects of biological age and menarche age had a significant relationship with the occurrence of dysmenorrhoea. As seen in Table 2, the value of menarche age and age was 0.002 and 0.023, which means that p <0.05. Environmental stressors with the workload aspect and interpersonal relationship aspect had a significant relationship with dysmenorrhoea in adolescents. It also had a *p*-value of 0.009 and 0.015, which equals $p<0.05$. Coping strategy within the *emotion-focused*

coping (EFC) aspect had a significant correlation with incidences of dysmenorrhoea in adolescents with a value of *p emotion-focused coping* (EFC) 0.019, equal to $p<0.05$.

DISCUSSION

Personal Stressors of Female Adolescents with Dysmenorrhoea

The age of adolescents is one of the factors of dysmenorrhoea incidence. The older the age of the woman, the more that the incidence of dysmenorrhoea will decrease with reduced uterine nerve function due to aging. The majority of the study respondents were female students aged either 13-14 years old, so the research respondents were classified as early adolescents. Dysmenorrhoea is often experienced in adolescence because in adolescence, the reproductive organs do not quite function properly and are susceptible to stress if coping has not been constructed. Thus, there is a significant relationship between age and dysmenorrhoea. Susanto, et. Al. (2008) research in Makassar city showed that the most common age group suffering from dysmenorrhoea disorder was between 13-15 years old[7].

Adolescence is a period in the interval of 10-19 years old. Adolescent age limits are categorised into 3 age groups, namely early adolescents (aged 12-15 years old), middle adolescents (ages 15-18 years old), and late adolescents (18-21 years old). In adolescents aged 13-14 years old, anxiety will increase when hormonal changes occur that cause discomfort. If on the contrary this anxiety is allowed to linger, then the psychological adverse effects of this anxiety results in stress, in turn resulting in physical disorders including dysmenorrhoea[1].

Menarche age has a significant correlation to incidences of dysmenorrhoea. This is evidenced by some of the respondents experiencing rapid menstruation at an age younger than 12 years old. Menarche age is one of the factors that causes dysmenorrhoea. Research from Sophia, *et al*. (2013) stated that there is a correlation between the age of menarche and dysmenorrhoea. Menarche at a younger age has a higher risk of the incidence of primary dysmenorrhoea compared to women with a menarche age that is older than 11 years old[8].

Menarche is the first menstruation experienced by female adolescents, which is the sign of sexual maturity, although the reproductive system is not completely developed until 1-1.5 years after menarche. Menarche usually starts at the age of 9-12 years old, and there is a small percentage who experience it later than the age of 13-15 years. Since menarche is initiated, women will continue to experience menstruation throughout their lives, every month until they reach the age of 45-55 years, which is commonly called menopause[2]according to the survey result that many students still didn't know how to decrease dismenore. This research used pre experiment method with the one group pretest-posttest design. The research population was all of the XI class student at Kediri High School 5 whom got dismenore at April 2016. The sample was 16 respondent which taken by accidental sampling. Primary data which is got from dismenore pain measurement at teenager which is done before giving the dark chocolate (pre test. Menarche at a younger age involves a higher risk of dysmenorrhoea compared to women who experience menarche at an age older than 11 years old. Factors such as hereditary health, food, and health as a whole can accelerate or inhibit the incidence of menarche[8].

Students who start menstruation at the age of ≤ 12 years old will have a higher risk of experiencing a dysmenorrhoea than students who menstruate at the age of 13-14 years old. The earlier menarche age (≤ 12 years) is where the reproductive organs have not developed optimally and as there is still a narrowing of the cervix, there will be pain during menstruation. This happens because the woman's reproduction system is not yet functioning fully.

Environmental Stressors on Female Adolescents with Dysmenorrhoea

Having an overloading workload is one of the factors of dysmenorrhoea incidences. This is proven by 5 respondents who considered doing too much schoolwork to be a very burdensome workload. In addition, 105 respondents considered final semester examinations and bad grades during the exams themselves to be a burdensome workload. A total of 37 respondents said they had never experienced dysmenorrhoea before and that in the exam period, they had dysmenorrhoea. A workload considered to be a burden can cause a significant relationship between workload and incidences of dysmenorrhoea.

The academic workload on adolescents is predominantly assignments and tests. Baumel (2000 in Nglai, 2008) stated that stress in relation to academics in children arises when expectations for their academic achievement increases, from parents, teachers and their peers. This stress increases every year, along with the age-related demands of talented and accomplished children, which will never stop. Stress is a physiological, psychological and human behavior response that tries to adapt and regulate both internal and external stressors. One of the effects from stress is experiencing dysmenorrhoea during menstruation. This can be related to a disturbance in endocrine activities, which raises the prostaglandin level[9].

Diana Sari's (2015) research on female students in Yogyakarta stated that mild primary dysmenorrhoea is most often experienced by the respondents who experienced mild stress. The respondents who experienced severe dysmenorrhoea were the respondents who experienced severe stress[3]. Katwal PC et al (2016) stated that adolescents with dysmenorrhoea can find that it affects their academic and social performances, and sporting activities[10]conducted from 1st Dec. 2012 to 31st Jan. 2013. The study was conducted in Kathmandu University School of Medical Sciences. A total of 184 participants consented for this study and each one was given a questionnaire to complete. This study included only unmarried nulliparous, healthy (all through first to final years.

Interpersonal relationships were one of the biggest factors related to triggering a stress in adolescents which can cause them to suffer from a biological disorder such as dysmenorrhoea during menstruation. This was proven by 23 respondents who said 'unable' in relation to helping others, working together and supporting one another to complete tasks in a group, as well as resolving conflicts with friends within group assignments. A total of 6 people stated "unable" on the matter of communicating well and being polite towards their parents. This inability caused a significant correlation between interpersonal relationships and dysmenorrhoea.

An interpersonal relationship is a relationship that consists of two people or more who are dependent on each other and who use a consistent interaction pattern. In the school environment, female students have high academic demands but at the same time, they must be able to socially interact and establish good relationships with others, such as with other students, between students and other school members in relation to both verbal and nonverbal communication methods. Ernawati (2015) stated that the higher the support received by the students, the lower the stress that the students had, and vice versa; the lower the social support received by the students, the higher the stress of the students[11]. More family and social support allowed the adolescents have higher self-esteem and a more optimistic perspective. Therefore, it makes the students more capable of dealing with their problems, since social interactions are one of the factors influencing stress in students[12].

There are some who are unable to interact with their friends because they feel inferior, have internal conflicts and who cannot solve problems with their friends. Some are even unable to communicate well with their parents because their parents are divorced, dead or work outside the city. This is considered by adolescents to be a stressor, and causes adolescents to experience stress which will later cause pain during menstruation caused by endocrine disruption.

Strategy Coping in Female Adolescents with Dysmenorrhoea

Emotion-Focused Coping (EFC) has a significant correlation with dysmenorrhoea. It has been proven that the majority of respondents chose emotion-focused coping as their chosen coping strategy when experiencing dysmenorrhoea. This is supported by Taufik's (2013) research, which stated that women are more likely to use emotion-focused coping as they tend to regulate their emotions when dealing with sources of stress[13].

A coping strategy is a coping method used by individuals when handling the demands of life. A coping strategy consists of two categories, according to Lazarus & Folkman's theory (1984), namely Problem-Focused Coping and Emotion-Focused Coping. The factors that influence the use of coping strategies include health, problem-solving skills, positive self-esteem, social and economic support[7].

A coping strategy that focuses on emotion or EFC will be susceptible when encountering dysmenorrhoea during the menstruation. This is because EFC tends to avoid the problem that is being experienced. When individuals avoid problems that make them experience stress, the problems that they face will be greater and so the stress will increases. Young women must choose

their strategy coping wisely in order to reduce the risk of dysmenorrhoea. When an individual can adapt themselves to the change that they experience due to an obtained stressor, then an individual has the ability to face both positive and negative stimulation.

CONCLUSION

Adolescents with dysmenorrhoea needs structural approach from school and family. Focusing on biological age, menarche age and strengthening coping strategy may be benefits to reduce the severity of dysmenorrhoea.

Ethical Clearance: This study has passed the institutional review board from Faculty of Nursing, Universitas Airlangga, Surabaya number 966-KEPK.

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Conflict of Interest: None.

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